

California Public Employees' Retirement System

Audit of the Actuarial Valuation

Of the 1959 Survivor Benefit Program

As of June 30, 2007

**Report Completed In Satisfaction of
Task 6 of Contract 2003-3236**

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Overview

EFI Actuaries has completed an audit of the Actuarial Valuation of the 59 Survivor Benefit Program (the Plan, the Program) as of June 30, 2007. The scope of this audit was a review of the Actuarial Valuation Report (the Valuation, the Report), an evaluation of actuarial methods and assumptions, and verification of several sample sets of liability calculations.

As a result of our efforts, we are able to attest to the following.

- Overall, we found the Report to be accurate and complete, and fully compliant with generally accepted actuarial principles and with all standards of practice.
- We reviewed the actuarial methods and assumptions used for the Valuation, and find them to be reasonable and within acceptable standards of practice.
- EFI assessed the correctness of the valuation calculations by creating two *independent* valuation models to develop liabilities for the eight groups of sample members. The resulting liabilities are within acceptable tolerances.

These findings are discussed in more detail below. In addition, we offer a few suggestions for future improvements.

Background

The 1959 Survivor program was designed to provide pre-retirement death benefits to CalPERS' members not covered by the Federal Old Age and Survivor Insurance (OASI) program. The benefit is available only to those members not covered by OASI benefits. For CalPERS State and School members, this benefit is provided by State statute to certain groups of employees; public agencies are able to contract with CalPERS for the Program. Members who are eligible for the Program are given a one-time option to elect this benefit. Five numbered benefit levels and an indexed level are available, depending on the employer and the date of hire.

The benefit is a monthly payment to the eligible surviving spouse and children. A spouse is eligible if he or she has care of eligible children or is age 62 (60 for levels 3 or higher) or older. A child is eligible if he or she is under age 22 and not married. Physically disabled children are also eligible until the disability ceases. If there are no children or spouse, dependent parents over age 62 are eligible.

Actuarial assumptions used to compute liabilities and normal costs include:

- A 7.75% annual rate of investment return, net of all expenses;
- CalPERS specific mortality assumptions for surviving spouses;
- No mortality is assumed for child beneficiaries;
- Miscellaneous 2% @ 55 decrements for Miscellaneous Indexed members; and



- Police 2% @ 50 decrements for Safety Indexed members.

Current (2008) benefit levels are shown in Table 1 below.

Table 1: Monthly Benefit Levels Payable under the 1959 Survivor Benefit Program

Coverage Tier:	Level					
	1	2	3	4	5	Indexed
Spouse with two or more children; or three or more eligible children	\$ 430	\$ 538	\$ 840	\$ 2,280	\$ 1,800	\$ 1,757
Spouse with one child; or two eligible children only	\$ 360	\$ 450	\$ 700	\$ 1,900	\$ 1,500	\$ 1,172
One eligible children only; or spouse age 62 or older; or dependent parents	\$ 180	\$ 225	\$ 350	\$ 950	\$ 750	\$ 585

Methodology

The audit process for the Program included three steps:

- Collection and review of individual liability calculations for members of the Program

The scope of this audit included a review of several sets of sample lives selected from the various populations that are part of the full valuation. We collected eight sets of sample lives, each containing 50 to 100 individuals.

- Verification of individual liability calculations for samples of Program participants

Samples of benefit recipients from each of the benefit levels (1 through 5 and Indexed Level) were reviewed, as well as two sample sets of active members (Miscellaneous and Safety) from the Indexed Level population. For each group, we obtained the valuation liabilities and normal costs determined by CalPERS.

For each of the eight sets of sample lives, we independently computed liabilities and normal costs under the 1959 Survivor Benefit Program, based on the assumptions and Plan provisions shown in the valuation Report published by CalPERS as of June 30, 2007. We then compared these liabilities to those computed by CalPERS and provided to us for the audit.

- Review of Methods and Assumptions

The actuarial assumptions and methods employed in the CalPERS 1959 Survivor Program Actuarial Valuation were reviewed by EFI in order to establish that they meet acceptable standards of actuarial practice. We examined current practices to determine if any possible improvements or enhancements are appropriate.

Independent Calculations

EFI assessed the validity of the calculations by creating two *independent* valuation models to develop liabilities for the eight groups of sample members.

Current Survivors

Our Survivors Model projects expected cash flows for each benefit recipient based on their benefit level and expected lifetime. These cash flows are discounted to the valuation date using the same assumptions used for the CalPERS valuation. These present values are then compared to the figures provided by CalPERS for each group.

The results produced by the PERS staff and by EFI are in very close agreement for all of the Survivors samples, deviating by at most 4.8%. In aggregate, the total present value we determined for the sample of 589 survivors was within 1% of that calculated by PERS.

Table 2 below shows the results of the calculations.

Table 2: Comparison of Present Value of Benefits for Survivor Sample

Sample Survivors Present Value of Benefits				
Level:	Number in Sample	CalPERS	EFI	Ratio
1	100	1,708,422	1,750,543	102.5%
2	89	1,948,414	1,968,529	101.0%
3	100	3,283,353	3,271,206	99.6%
4	100	9,605,676	9,881,178	102.9%
5	100	7,168,902	7,511,036	104.8%
Indexed	100	8,874,843	8,502,508	95.8%
Total	589	32,589,610	32,885,000	100.9%

Current Active Members

We developed a separate Active Model for active members in the Program. This Model was designed to determine the present value of benefits for each member in the same manner as that employed by CalPERS, applying Miscellaneous 2%@55 decrements for Miscellaneous members and 2%@50 Police decrements for Safety members.

Table 3 below shows the results of the calculations.



Table 3: Comparison of Active Liabilities and Costs for Miscellaneous and Safety Samples

Sample Active Liabilities for Indexed Level			
<i>Sample of 49 Miscellaneous and 50 Safety Members</i>			
	CalPERS	EFI	Ratio
Present Value of Benefits			
Miscellaneous	39,383	39,450	100.2%
Safety	37,449	37,968	101.4%
Total	76,832	77,418	100.8%
Accrued Liability			
Miscellaneous	10,343	11,034	106.7%
Safety	16,961	16,294	96.1%
Total	27,304	27,328	100.1%
Normal Cost			
Miscellaneous	4,610	4,450	96.5%
Safety	3,317	3,534	106.5%
Total	7,927	7,984	100.7%
Normal Cost per member per month			
Miscellaneous	7.84	7.57	96.5%
Safety	5.53	5.89	106.5%
Total	6.67	6.72	100.7%

Reconciliation of Results

For all six of the survivor samples, EFI's calculations were within 5% of those computed by CalPERS, therefore no reconciliation is required. The same is true for the total present value of benefits and normal costs for the two active samples.

The total present value of benefits, accrued liability, and normal cost computed by EFI were all within 1% for the combined sample of 99 active lives. There were some differences slightly greater than 5% for two components of the calculations: normal cost for the Miscellaneous sample, and accrued liability for the Safety sample. We believe that these discrepancies are due to minor differences in the valuation models, and thus do not represent material deviations.

Review

- Member Data

We did not audit the participant data nor did we audit the asset information that was provided to us. The only element of the data that we found to be a potential issue was that some of the payment amounts listed for the survivor samples did not seem to match their benefit level and coverage tier.

- Actuarial assumptions

We have reviewed the actuarial methods and assumptions used for the valuation, and find them to be reasonable and within acceptable standards of practice.

With respect to the computation of liabilities and cost for active members in the Indexed Level, a “claims matrix” is used to estimate the present value of future payments to survivors. While this is a reasonable approach, we suggest investigating alternative methods of estimating the present value of survivor benefits at the time of death, such as a full projection of expected cash flows or expected claims based on weighted distributions of surviving spouses, children, and dependent parents.

- Valuation Report

Overall, we found the report to be accurate and complete. However, we would like to make one suggestion: In the plan provision section of the report, the “start and stop” nature of survivor benefits should be described in more detail. For example, a spouse with dependent children will receive payments from the Plan until the children are older than age 22, and then will receive payments again upon attainment of age 62.